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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/403,213	06/22/2000	Matheus Hubertus Maria Noteborn	LEBV.004.01U	6984

24247 7590 02/10/2003

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EXAMINER
WHITEMAN, BRIAN A

ART UNIT	PAPER NUMBER
1635	

DATE MAILED: 02/10/2003

21

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/403,213	Applicant(s) NOTEBORN ET AL.	
	Examiner Brian Whiteman	Art Unit 1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 August 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-2,4-16,22, 25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4,6,8-16,22 and 25* is/are rejected.

7)☒ Claim(s) *2,5,7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☒ The proposed drawing correction filed on *03 December 2002* is: a)☐ approved b)☒ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *20* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Non-Final Rejection

Claims 1, 2, 4-16, 22, and 25 are pending examination.

Applicants' traversal, the amendment to the specification, the amendment to claims 1, 2,4-16, 22, and 25, and the cancellation of claims 23, 24, 26, and 27 in paper no. 18 is acknowledged and considered.

Priority

Note: This instant application does not enjoy priority to pending application 09/740,676 filed on 12/18/00 because '676 was filed 6 months **after** the instant application.

Therefore, applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

The second application (which is called a continuation) must be an application for a patent for an invention which is also disclosed in the first application (the parent or provisional application); the disclosure of the invention in the parent application and in the continuing application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *In re Ahlbrecht,* 168 USPQ 293 (CCPA 1971). The parent applications, 08/842,161, and 08/454,121, 08/030,335 coupled with the state of the art prior to June 7, 1995, does not adequately enable the availability of: A gene delivery vehicle comprising a modified translation initiation site directly upstream of the ATG initiation codon, wherein said translation initiation site comprises the nucleic acid sequence GCCAAC (claims 2, 5 and 7); A host cell

comprising gene delivery vehicle, which is a helper cell or packaging cell (claims 15 and 16). Thus, the parent applications do not contain adequate support or description of the claimed material and/or methods, which are essential for the practice of the claimed invention.

Specification

This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required. Cover sheet of WO 98/46760 does not meet the requirement.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
(e) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(h) DETAILED DESCRIPTION OF THE INVENTION.
(i) CLAIM OR CLAIMS (commencing on a separate sheet).
(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

The disclosure is objected to because of the following informalities: the description of drawings is after the detailed description of the invention. Suggest placing the description of the drawings before the description of the invention.

Appropriate correction is required.

The objection to claim 4 is moot in view of the amendment to the claims.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 4, 6, 8, 12, and 13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1, 4, 6, 8, 12, and 13, as written, do not sufficiently distinguish over the CAV as it exist naturally because the claims do not particularly point out any non-naturally occurring differences between the claimed products and the naturally occurring products. In the absence of the hand of man, the naturally occurring products are considered non-statutory subject matter. *See Diamond v. Chakrabarty*, 447 U.S. 303, 206 USPQ 193 (1980). The claims should be

amended to indicate the hand of the inventor, e.g., by insertion of "recombinant vector" as taught by pages 4 and 6 of specification. See MPEP 2105.

Applicants' traversal is not applicable to the new rejection under 101.

The rejection for claims 1-2, 4-16, and 22-27 under 112 written description is moot in view of the amendment to the claims and the cancellation of claims 23, 26, and 27.

The rejection for claims 23, 24, 26, 27 under 112 enablement are moot in view of the cancellation of claim 23, 24, 26, and 27.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 22 and 25 remain rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method for inducing apoptosis in a tumor of a mammal by directly administering to the tumor of said mammal the claimed recombinant gene delivery vehicle and does not reasonably provide enablement for a method of inducing apoptosis in a mammalian tumor by directly administering the claimed vehicle to a mammal. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.

> Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized in In re Wands, 858 F.2d 731, 8USPQ2d 1400 (Fed. Cir. 1988). They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

The claimed invention is a gene delivery vehicle for use in a method of cancer gene therapy. The invention lies in the field of gene therapy.

Furthermore, and with respect to claims directed to any vector useful for gene therapy and directed to any therapeutic treatment of a disease in a mammal; the state of the art in 1998, exemplified Anderson et al., *Nature*, Vol. 392, pp. 25-30, April 1998, displays major consideration for any gene transfer or any DNA therapy protocol involve issues that include:

1) The type of vector and amount of DNA constructs to be administered,

2) The route and time course of administration, the sites of administration, and successful uptake of the claimed DNA at the target site;

3) The trafficking of the genetic material within cellular organelles, the rate of degradation of the DNA, the level of mRNA produced, the stability of the mRNA product, the amount and stability of the protein produced, and

4) What amount of the expressed proteins considered to be therapeutically effective for a DNA therapy method (Anderson, *Nature*, Vol. 392, pp. 25-30, April 1998).

In addition, all of these issues differ dramatically based on the specific vector used, the route of administration, the animal being treated, therapeutically effective amount of the DNA, and the disease being treated.

Anderson teaches that gene therapy is a powerful new technology that still requires several years before it will make a noticeable impact on the treatment of disease, and that several major deficiencies still exist including poor delivery systems, both viral and non-viral, and poor gene expression after genes are delivered (pp. 25-30).

Anderson further teaches that the reason for the low efficiency of gene transfer and expression in human patients is that we still lack the basis understanding of how vectors should be constructed what regulatory sequences are appropriated for which cell types (page 30, column 1, last paragraph). Furthermore, Verma, *Nature*, Vol. 389, pages 239-242, 1997, indicates that factors including the nature of the diseases and/or disorders, the nature of a DNA and/or target tissue, and a delivery system and/or amounts of the DNA complexes employed in the delivery system that would generate a therapeutic effect *in vivo* must be considered for any gene therapy method to be successful (page 238, columns 1 and 2). Thus, at the time the application was filed gene therapy was considered unpredictable.

The specification provides working examples: The construction of recombinant vector comprising a nucleic acid encoding the chicken VP3 protein and using several packaging and helper cell lines (pages 8-16). Page 17, the disclosure examined whether the construct would induce apoptosis in isolated cell cultures comprising human transformed (page, 17, lines 19-20) and/or malignant cell lines (line 23). The construct exhibited apoptosis in different mammalian tumorigenic and transformed cell lines (Fig 4). Page 18 displays the construct did not induce apoptosis in an isolated culture of normal non-transformed human cells. On page 19 the disclosure examined the effect of incorporating a nucleic acid sequence in front of the ATG-initiation codon for the chicken VP3 protein. The result is 5 times more VP3 expression compared to the original direct upstream sequence. On page 20 the disclosure co-expresses two vectors (one vector comprising the chicken VP2 protein and the other vector comprising the chicken VP 3 protein) in an isolated culture of Saos-2 cells. The results in Figure 5 show that VP2 enhances the apoptosis. The disclosure produces a retrovirus vector expressing VP3 and

showed that the vector can induce apoptosis in an isolated culture of human tumor cells (pages 21-22). On page 23, the disclosure prophetically contemplates how a diagnostic assay comprising rAD-VP3 would function. On pages 23-26, the specification determined toxicity of the gene delivery vehicle in experimental rats by intravenously, intra-peritoneally, or subcutaneously injection. The results showed that the expression of VP3 has not toxic effect in vivo. On pages 26-29, the disclosure used nude mice and injected subcutaneously into the nude mice tumorigenic cells and after the tumors developed, the specification intra-tumorally injected rAd-VP3 and control rAD-con1 vectors into the tumors. The results showed that the tumors injected with rAD-VP3 vector were reduce in sized compared to the tumors injected with the control vector.

In view of the In Re Wands Factors, the disclosure provides sufficient guidance for one skilled in art to make a recombinant gene delivery vehicle comprising a nucleic acid molecule encoding either the CAV VP2 and/or the CAV VP3 and use the claimed vector in an *in vivo* method of gene therapy for inducing apoptosis in tumor cells in a mammal comprising intra-tumoral administration of said vehicle to said tumors in the mammal. However, the specification does not provide sufficient guidance for one skilled in the art to reasonably correlate from the scope to any other *in vivo* method of gene therapy for inducing apoptosis in a tumor of a mammal using intravenous, intraperitoneal, dermal, nasal, buccal, rectal, vaginal or topical administration of the vehicle.

In further view of the doubts expressed above by Anderson and Verma, the state of the art at the time the application was filed and currently for cancer gene therapy as discussed by Vile et al., (*Gene Therapy*, Vol. 7, pp. 2-8, 2000). Vile teaches:

The problems which gene therapy for cancer will take into the next millennium focus far less on the choice of therapeutic gene(s) to be used than on the means of delivering them. There is already a battery of genes that we know are very effective in killing cells, if they can be expressed at the right site and at appropriate levels. Nonetheless, until the perfect vector is developed, the choice of gene will remain crucially important in order to compensate for the deficiencies of the vectors we currently have available (page 2, 1st paragraph, left column). Whatever its mechanism, no single genes can be a serious contender unless it has a demonstrable bystander effect (page 2, right column). The requirement for such a bystander effect stems directly from the poor delivery efficiency provided by current vectors (page 2, right column).

Vile further discusses:

A genuine ability to target delivery systems to tumor cells distributed widely throughout the body of a patient would simultaneously increase real titers and efficacy. In truth, no such systemically targeted vectors exist yet. Injection of vectors into the bloodstream for the treatment of cancer requires not only that the vectors be targeted (to infect only tumor cells) but also that they by protected (from degradation, sequestration or immune attack) for long periods of time so that they can reach the appropriate sites for infection. Moreover, having reached such sites, the vectors must be able to penetrate into the tumor from the bloodstream before carrying out their targeted infection (page 4, bottom left column and top right column).

In view of the concerns set forth by above, including the art of record, the as-filed specification does not provide sufficient guidance or factual evidence for one skilled in the art to practice the full scope of the claimed embodiment.

As a result, it is not apparent how one skilled in the art determines, without undue experimentation, which of the claimed gene delivery vehicles generate a therapeutic effect using any route of administration other than direct administration, how is it apparent as to how one skilled in the art, without any undue experimentation, practices any nucleic acid therapy methods as contemplated by the claims, particularly given the unpredictability of nucleic acid therapy as a whole and/or the doubts expressed in the art of record.

In conclusion, the as-filed specification and claims coupled with the state of the art at the time the invention was made only provide sufficient guidance and/or evidence to reasonably enabled for using the claimed recombinant vehicle in an *in vivo* method of gene therapy for inducing apoptosis in tumor cells in a mammal comprising intra-tumoral administration of said vehicle to said tumors in the mammal and not for the full scope of the claimed invention. Given that gene therapy wherein any carrier is employed to correct a disease or a medical condition in any mammal was unpredictable at time the invention was made, and given the lack of sufficient guidance as to a cancer gene therapy effect produced by any vector cited in the claims, one skilled in the art would have to engage in a large quantity of experimentation in order to practice the claimed invention based on the applicant's disclosure and the unpredictability of gene therapy.

Applicants' arguments filed 12/3/02 have been fully considered but they are not persuasive. Applicants have merged claim 23 into claim 22 and merged claim 26 into claim 25.

Therefore, applicants assert that claims 22 and 25 as amendment are clearly enabled by the specification as noted by the examiner in the scope of enablement.

Applicants' traversal is not found persuasive for the following reasons: the specification only provides sufficient guidance or factual evidence for a method of treating a tumor in a mammal comprising intra-tumorally administering the claimed vector to the tumor of said mammal.

The claimed methods are directed to using any method of administering the claimed vector to a tumor in a mammal. The as-filed specification only provides sufficient guidance for one skilled in the art to use a method of inducing apoptosis in a tumor in a mammal comprising intra-tumorally administering the claimed vector. The specification and the art of record do not teach how to induce apoptosis in a tumor in a mammal by directly administering a vector to the mammal. The art of record further teaches the problems with using any route of administration other than direct administration (See Vile and Verma). Thus, in view of the In re Wands Factors, the as-filed specification is only enabled for intra-tumorally administering the claimed vector to induce apoptosis of a tumor in a mammal.

The rejection for Claims 14, 22-23 and 26-27 under 112 second paragraph are moot in view of the amendment to claims 14 and 22 and the cancellation of claims 23 and 26-27.

Claim Rejections - 35 USC § 102

The rejection for claims 1, 4, 6, 8, 12, 13, 14, 22, 23, 25, and 26 under 102(e) is moot in view of the applicants' traversal and the cancellation of claims 23, 25, and 26.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4, 6, 8, 12, 13, and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by Noteborn et al. (IDS, Journal of Virology, Vol. 65, p. 3131-3139, June 1991). Noteborn teaches the CAV virus comprising three partially overlapping major reading frames coding for putative peptides of 51.6, 24.0, and 13.6 kDa (abstract). The virus has a target molecule, which is a capsid polypeptide (page 3137). Noteborn teaches infecting chicken lymphoblastoid cell lines with the virus (page 3131). Thus, by Noteborn teaching that the virus infects a cancer cell line, it is inherent that the virus has a target molecule that is reactive with a tumor cell.

Applicant's arguments with respect to claims 1, 4, 6, 8, 12, 13, and 14 have been considered but are moot in view of the new ground(s) of rejection.

Claims 1, 4, 6, 8, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Yuasa et al. (Avian Disease, Vol. 23, p. 366-385, 1979) in view of Noteborn et al. (IDS, Journal of Virology, Vol. 65, p. 3131-3139, June 1991). Yuasa teaches isolation of a virus (CAA) from

chickens. CAA was later named CAV (see page 3131 of Noteborn). Yuasa further teaches that the virus has a target molecule (e.g. surface receptor) that was identified in a neutralization test of CAA (page 371).

Applicant's arguments with respect to claims 1, 4, 6, 8, and 12 have been considered but are moot in view of the new ground(s) of rejection.

The rejection for claims 22-27 under 103(a) is moot in view of the applicants' traversal and the cancellation of claims 23, 25, and 26.

Double Patenting

The non-statutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper time-wise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a non-statutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 22 and 25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 5,981,502. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims from '502 are directed to a method of effecting apoptosis in tumor cells, said method

comprising: providing to said tumor cells a nucleotide sequence derived from a chicken anemia virus genome that codes for a protein thereof that induces apoptosis, wherein the said protein is VP2 or VP3. In addition, one skilled in the art understands that naked DNA is considered a gene delivery vehicle.

Applicants offer to file a terminal disclaimer for claims 22 and 25 in regard to US Patent No. 5,981,502.

However, the rejection will not be withdrawn until the terminal disclaimer is filed.

Claims 1, 4, 6, 8, 22, and 25 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23-29, 31-33 and, 37-41 of U.S. Patent No. 6,162,461. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims from '461 are directed to a method of inducing apoptosis in tumor cell, said method comprising: transfecting said cell with an expression vector encoding one or both of a polypeptide depicted in Fig 3. or Fig 2.

To speed prosecution, applicants offer to file a terminal disclaimer for claim 22 and 25 in regard to US Patent No. 6,162,461.

The rejection will not be withdrawn until applicants file a terminal disclaimer.

Claims 1, 7, 8, 9, 10, 11, and 14-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 23-29, 31-33, and 37-41 of U.S. Patent No. 6,162,461 in view of Mason et al. (US Patent No. 5,643,770, effective filing date 7/21/94). The claims from '461 are directed to a method of inducing apoptosis in tumor cell,

said method comprising: transfecting said cell with an expression vector encoding one or both of a polypeptide depicted in Fig 3. or Fig 2. The difference between claims of '461 and the instant application is that the instant application claims a viral vector, wherein the viral vector is a replication defective retroviral vector or a replication defective adenoviral vector and a host cell comprising the viral vector, wherein the host cells is a PA-317 cell. However, Mason teaches that replication defective adenoviral and replication defective retroviral vectors were well known in the art for use in transducing cells (column 4, lines 10-21). Mason further teaches producing a retroviral packaging cell line using PA-317 cells (column 15, lines 21-33). One of ordinary skill in the art would have motivated to combine the teaching of Noteborn with Mason to make and use replication defective adenoviral or retroviral vectors comprising a nucleotide sequence encoding CAV protein VP2 and/or VP3 and a retroviral packaging cell line using PA-317. One of ordinary skill in the art would have been motivated to make and use either replication defective viral vector because Mason teaches that these vectors are efficient at transducing cells. Therefore, the claims of the instant application and '461 in view of Mason are obvious variants of one another.

Applicants' traversal is not applicable to the new rejection under double patenting.

The statement "to show that Patent No. 6,162,461 and the instant application were commonly owned" made by the examiner is moot in view of the statement made by the applicants in the response filed 12/3/02 and in view of MPEP 706.02(l)(2).

Claims 2, 5, and 7 are free of the prior art.

Claims 2, 5, and 7 are objected to because they depend on a rejected claim (claim 1, 4, 6), but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Whiteman whose telephone number is (703) 305-0775. The examiner can normally be reached on Monday through Friday from 7:00 to 4:00 (Eastern Standard Time), with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John L. LeGuyader, SPE - Art Unit 1635, can be reached at (703) 308-0447.

Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CM1 Fax Center number is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Brian Whiteman
Patent Examiner, Group 1635

SCOTT D. PRIEBE, PH.
PRIMARY EXAMINER
Scott D. Priebe